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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,690	03/12/2002	Inge Johansen	2001_1827A	1301
513	7590	10/15/2003	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			KERNS, KEVIN P	
2033 K STREET N. W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20006-1021			1725	

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/009,690	JOHANSEN ET AL.	
	Examiner	Art Unit	
	Kevin P. Kerns	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 18 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Specification

1. The (substitute) disclosure is objected to because of the following informalities: on page 4, line 11, "(13,14)" should be changed to "(12,13)". On page 6, last line, it is believed that the term "polymethylmetacrylat" is a European (German?) name for "polymethyl-methacrylate" and should be changed appropriately. Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 9 and 14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11 and 17, respectively, of copending Application No. 10/018,174. Although the conflicting claims are not identical, they are not patentably distinct from each other because each of the

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claims shares identical elements (mold housing having a plurality of channels, permeable wall material, at least one annular slit/nozzles, and an insulating plate provided with through holes), with the exception of the functional limitations of primary and secondary cooling provided in 10/009,690. One of ordinary skill in the art would have recognized that the structures provided in claims 11 and 17 of 10/018,174 would clearly be able to provide increased/decreased cooling to the metal being cast, corresponding to claims 9 and 14 of the present application, respectively.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Dantzig et al. (US 4,523,624).

Dantzig et al. disclose a horizontal casting apparatus for casting round ingots, in which the apparatus includes a liquid metal reservoir 22, a releasable, circular mold 12 (steel is disclosed as one material for the mold) having a mold cavity, a valved lubricant (oil, graphite etc.) supply system (50,51,52,54,56) for providing primary/secondary

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cooling, and a cooling (preferably water) manifold arranged circumferentially around the (permeable) outer mold wall 16, such that primary/secondary cooling (through slits) is controlled by a valving arrangement 48 (abstract; column 3, lines 25-68; column 4, lines 1-53; and Figures 1 and 2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 9-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kittilsen et al. (US 5,915,455).

Kittilsen et al. disclose an apparatus for horizontal casting of light metals, in which the apparatus includes a supply of molten metal M, a mold 10 with multiple housings and an oil ring 19 with oil supply channels 20 to lubricate the mold, a transition ring of insulating porous refractory material 21, gas supply channels 22, and separate primary and secondary cooling water circuits 11,12 (abstract; column 1, lines 55-67; column 2, lines 1-44; column 3, lines 7-67; column 4, lines 1-67; column 5, lines 1-3; and Figures 1 and 2). One of ordinary skill in the art would have recognized that (in addition to the mold material -- e.g. aluminum, copper, steel etc.), although the primary cooling is not specifically controlled by valve means, the exchanges of several molds having various geometries (having dimensions with protrusions, leading to variance in the coolant flow rates through the slits/nozzles) were made (easily replaceable) by Kittilsen et al. (in Tables I and II), for the purpose of producing ingots at adequate casting speed with good surface quality (column 3, lines 50-67; column 4, lines 1-27; and column 5, lines 20-41).

10. Claims 9-11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steen et al. (US 5,678,623).

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Steen et al. disclose continuous casting equipment of aluminum ingots or billets, in which the equipment includes a supply of metal 11, casting mold 1 having a collar made of aluminum or steel, an overhang 9 (protrusion) within the mold cavity, two permeable, separate rings/wall elements (12,13), or plates having holes, a water slit 10 (nozzle), and an oil supplying element 12, such that the elements for the supply of the two fluids may be optimized independently to sustain the best conditions when performing casting operations (abstract; column 2, lines 30-45; column 3, lines 25-42 and 51-67; column 4, lines 1-32; and Figures 1 and 2). Although horizontal continuous casting is not specifically disclosed by Steen et al., one of ordinary skill in the art would have recognized that the Steen et al. disclosure of continuous or semi-continuous direct chill casting (column 1, lines 4-6; and column 2, lines 63-67) would be obvious to be applicable to a horizontal continuous casting apparatus, as similar structural features are disclosed by Steen et al., such that the independent control of fluids are advantageous for obtaining uniform distribution of gas and oil along the periphery of the (suitably arranged) mold (column 2, lines 39-43).

Response to Arguments

11. The examiner acknowledges the applicants' amendment and supplemental amendment received by the USPTO on August 18 and 19, 2003, respectively. The proposed drawing corrections are approved by the examiner. The applicants have submitted a substitute specification and a revised abstract, but the specification continues to have minor informalities (see paragraph 1 above). Despite the applicants'

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drafting of new claims, double patenting rejections remain in the application (see paragraph 3 above). Prior rejections under 35 USC 112, 1st and 2nd paragraphs, have been overcome by the claim amendments. Claims 1-8 have been cancelled and replaced with new claims 9-18, which are currently under consideration in the application.

12. Applicant's arguments filed August 18, 2003 have been fully considered but they are not persuasive.

With regard to the applicants' arguments on pages 9-11 of the amendment of August 18, 2003, the examiner respectfully disagrees with the applicants' assertion regarding the double patenting rejections on the bottom of page 9 of the amendment. In fact, (new) claims 9 and 14 of the present application would be considered as subsets of respective (new) claims 11 and 17 of 10/018,174, with the exception of the functional language set forth in these (apparatus) claims.

Regarding pages 10 and 11 of the amendment, Dantzig et al. set forth primary and secondary cooling to the metal being cast, in the form of a coolant manifold and a lubricant supply system, both of which have cooling capabilities, and the interior wall of the mold housing of Dantzig et al. is necessarily "permeable" to some degree (if not by the wall material itself, permeability is provided in the form of cavities/channels that introduce lubricant and/or coolant into the system through the wall).

Regarding page 11, the Kittilsen reference discloses oil/gas provided to the mold (column 3, lines 18-38; and Figure 2). Furthermore, the oil/gas being "differentiated"

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provided in the applicants' arguments is not commensurate to the claims. Also on page 11, although Steen does not set forth a "horizontal" continuous casting device, the preamble to claims 9 and 14 should be changed to "Horizontal continuous casting equipment" (or an equivalent) to clearly set forth the structure of the apparatus, as Steen contains the substructures similar to that of the applicants' horizontal casting device. Furthermore, the oil/gas being "differentiated", as provided in the applicants' arguments (regarding Steen, which indeed has separate channels), is not commensurate to the claims.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., oil/gas being "differentiated") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's arguments, the recitation "Equipment for continuous, horizontal casting of metal" has not been given patentable weight because the recitation occurs in the preamble (see proposed revision in the discussion of Steen above). A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190

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USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Anderson reference is also cited to show related art.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK
kpk
October 2, 2003



ALEXANDRA ELVE
PRIMARY EXAMINER